Overview of EPA's Stormwater Rule Considerations

October 2012

US EPA Office of Water


03/11/2004

2009 NRC Report: Urban Stormwater Management in the U.S.

- Current approach unlikely to produce an accurate picture of the problem and unlikely to adequately control stormwater's contribution to waterbody impairment
  - Requirements leave a great deal of discretion to dischargers to ensure compliance
- "A more straightforward way to regulate stormwater contributions to waterbody impairment would be to use flow or a surrogate, like impervious cover, as a measure of stormwater loading …."
- "Efforts to reduce stormwater flow will automatically achieve reductions in pollutant loading. Moreover, flow is itself responsible for additional erosion and sedimentation that adversely impacts surface water quality."
- "Stormwater control measures that harvest, infiltrate, and evapotranspirate stormwater are critical to reducing the volume and pollutant loading of small storms."

Smarter Stormwater Management

Past approach

- Convey stormwater quickly from site to MS4 system, detention pond or directly to waterbody.
- Manage peak flows for flood control, drainage and large scale downstream erosion.

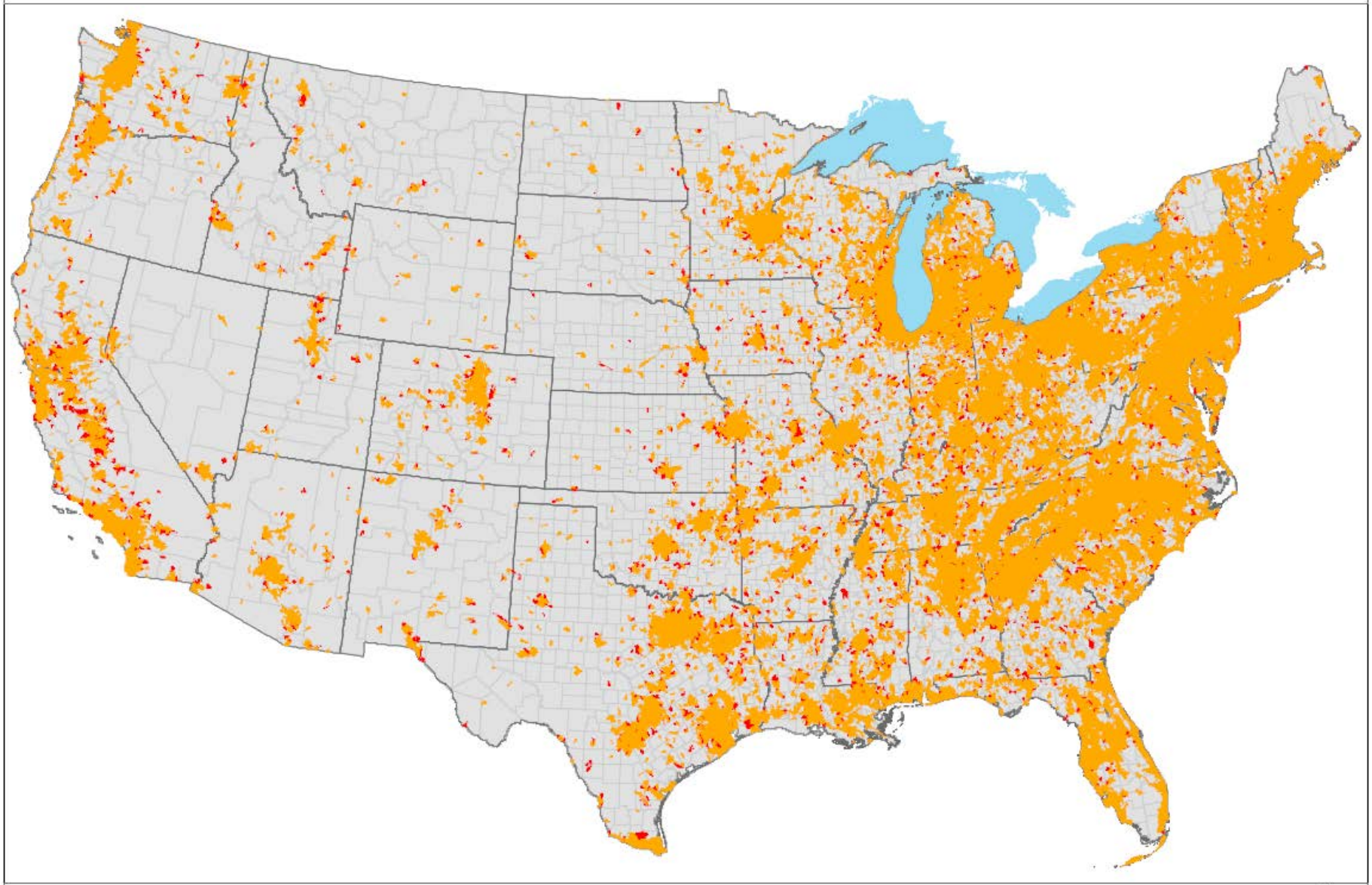
New approach

Integrate green infrastructure in the design of the project

- View stormwater as a resource.
- Slow down the flow, allow to infiltrate.
- Reduces pollutant loads to waterbodies.
- Obtain multiple community benefits.

At Risk HUC 12 Watersheds

MAP #1

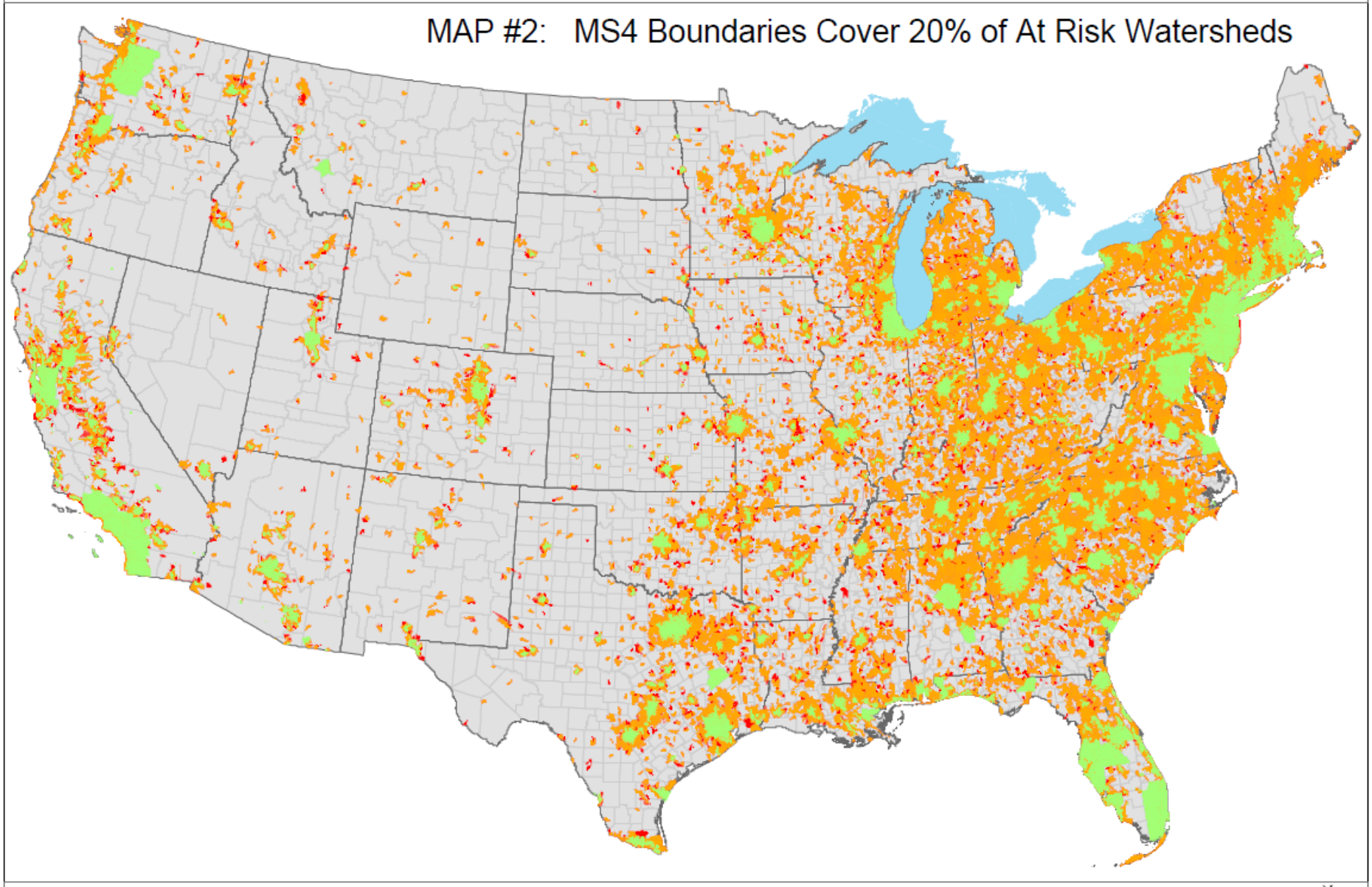


At Risk Watersheds (>5% Impervious) 2010

At Risk Watersheds (>5% Impervious) 2040

N

Regulated MS4 Boundaries & At Risk HUC 12 Watersheds

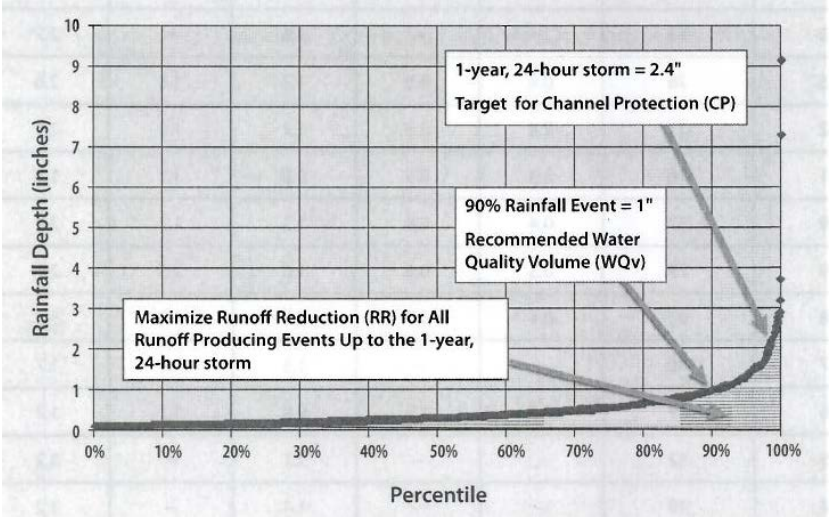


Key Elements of the Proposed Rule

1. Establish performance standards for discharges from newly developed and redeveloped sites.
2. Require certain regulated MS4s to develop a program to address discharges from existing sites (retrofits).
3. Extend protection of MS4 Program.

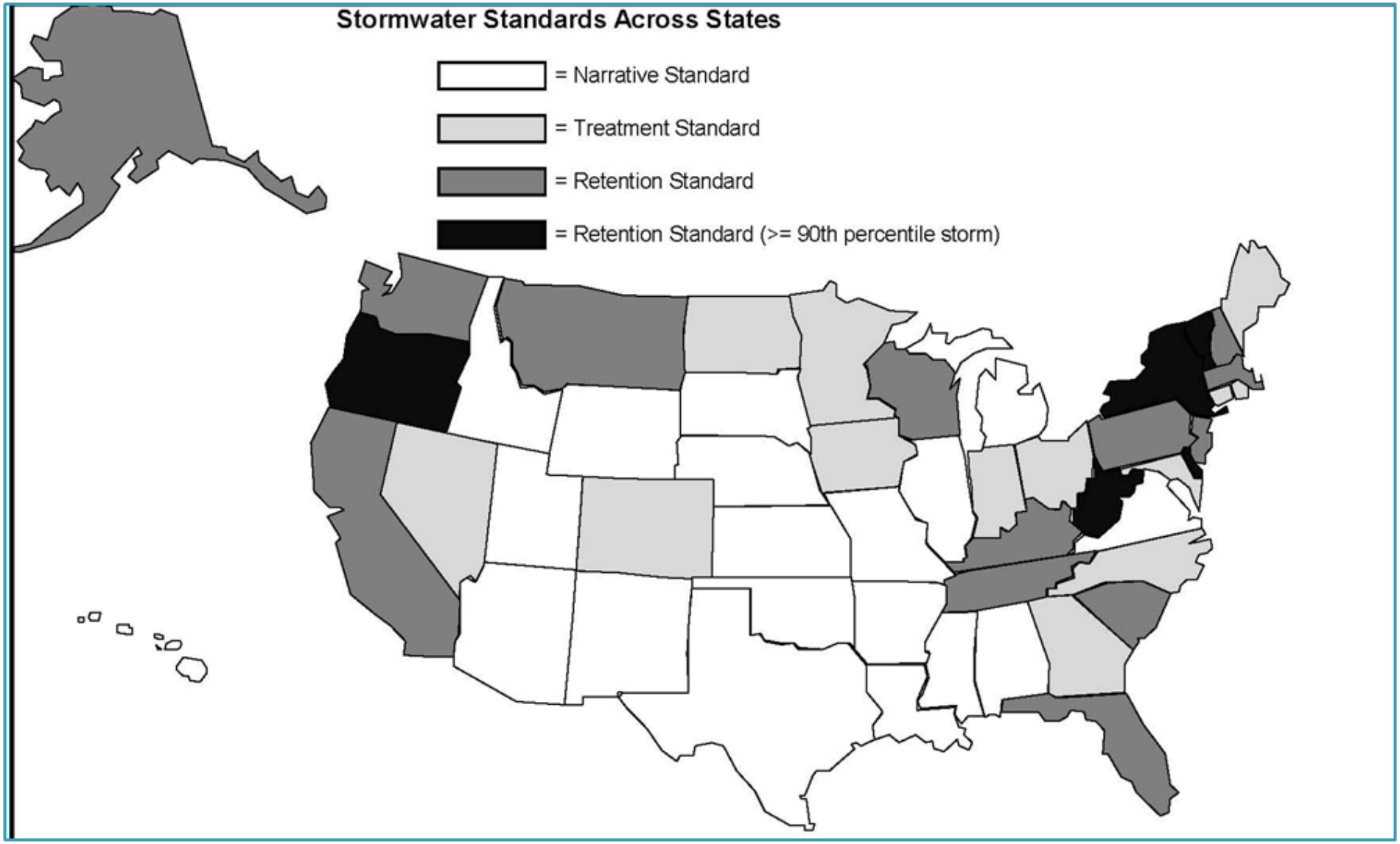
Element 1: Performance Standards

- EPA is evaluating a retention standard based on a specific percentile storm event (many sites retain small storms between the 85th and 95th percentile events under natural conditions)
  - Approach is sensitive to varying climatic conditions across the country
  - Easily implemented
- Rule could allow site-specific natural hydrologic analysis, however minimum treatment of 85th percentile storm could be required to reduce pollutant loading
  - Because post construction surface produces more pollutants even if results in same runoff volume



Rainfall Frequency Spectrum for Minneapolis, MN. Center for Watershed Protection, 2008

Current Retention & Treatment Standards



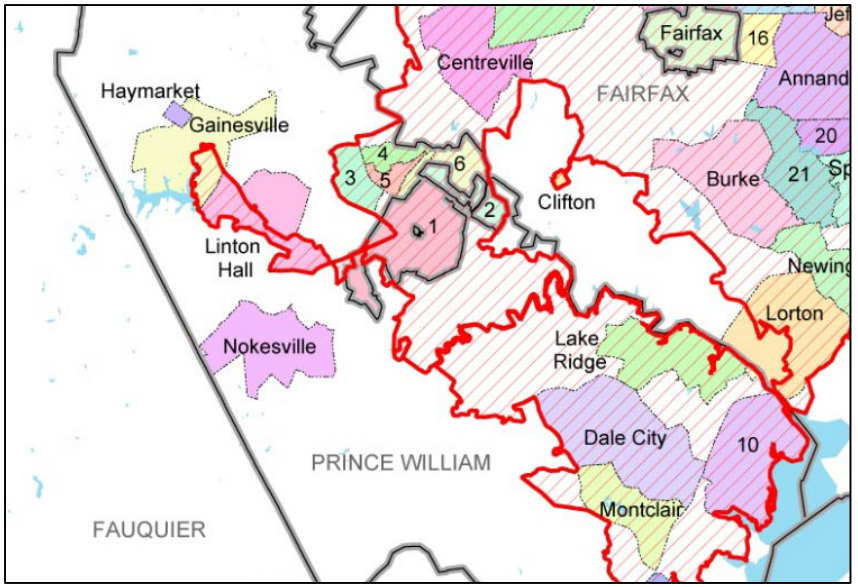
Element 1: Performance Standards

- Could accommodate site constraints (including water rights laws)
  - managed through treatment
  - off-site mitigation in the same subwatershed
  - payment in lieu.
- States could also develop alternative programs that are better suited to their needs, but that are as protective as the national standard.
- Delayed implementation of the performance standard following promulgation of the rule to allow time for municipalities to update codes and ordinances to allow for reducing impervious cover and green infrastructure practices

Pervious Paver Parking Stalls, Redlands, CA.
Photo courtesy of Jeff Endicott.

Element 1: Performance Standards

- The standard could be applied to newly developed and redeveloped sites nationwide or within other designated boundaries
- Applying the standard nationwide would create a level playing field for developers among municipalities and protect downstream communities from upstream development



District of Columbia Metro Area Urbanized Area Map US Census 2000 (red hatched)

Element 1: Performance Standards

Discharges from Redeveloped Sites

- Recommend lower standard for redevelopment
  - Recognize site constraints
  - To encourage redevelopment to revitalize urban communities
  - Considering additional incentives for smart growth and brownfield development

LA Infiltration Planters. *Photo courtesy of Bill DePoto.*

Element 2: Municipal Program to Manage Discharges from Existing Sites (Retrofits)

- Address existing degradation from existing sites and help restore urban waters
- Proposed approach could require certain regulated municipalities to:
  - Identify long term goals, highest priority projects and milestones
  - Integrate green infrastructure into projects cities are already doing
  - Implemented through an iterative approach as part of stormwater management plan
- Could Apply to:
  - Regulated MS4s serving 100,000 population or greater
  - Could allow exemptions where MS4 discharges do not cause or contribute to violations of water quality standards

Retrofit Projects

Curb Extension

Green Roofs

Downspout Disconnection

Vacant Land Program

BEFORE

AFTER

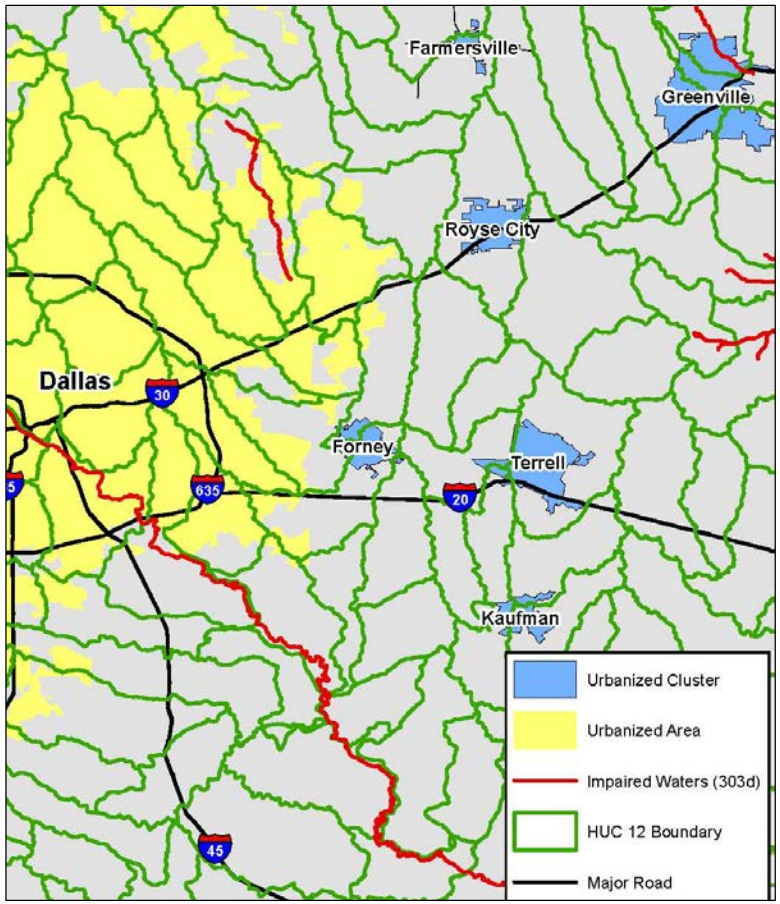
Element 3: Extending the Protection of the MS4 Program

- Helps ensure standards are properly implemented which could reduce need for expensive retrofits later
- Builds on existing framework of local oversight
- Implements 6 minimum measures which help prevent contamination

- Options

  1. Urbanized clusters as defined by Census (density of 1,000 people/mi^2)
     - Reaches unregulated densely populated areas
     - Could specify a population threshold

  2. Small watershed (HUC 12) which overlap with urbanized area
     - Reaches areas of high growth
     - Promotes watershed approaches
     - Could specify a population threshold



Element 3: Extending the Protection of the MS4 Program to All Principal Arterial Roads

Federal Highway Administration Category: roads which connect urbanized areas with more than 50,000 people and urban areas

- 61% of principal arterials are currently regulated

- Rulemaking could extend the MS4 program to the remaining 39% of principal arterials

- 12 states currently apply the MS4 program to all state-owned roads
  - –Arizona, California, DC, Illinois, Michigan, Nevada, New Jersey, New Mexico, North Carolina, Oregon, South Carolina, Tennessee, Utah

Rulemaking Schedule

Proposal: June 2013
Final Action: December 2014

www.epa.gov/npdes/stormwater/rulemaking